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EMBITTERMENT IN THE WORKPLACE: HOW DOES IT ASSOCIATE WITH BURNOUT AND WHAT TRIGGERS IT?

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ABSTRACT

Aim/Purpose	Embitterment comprises a stress-related response to unjust life experiences. Studies have found that it can have a toll on employees' well-being. However, research on this matter is still in its infancy.
Background	Within the scope of the present study, I sought to investigate how embitterment relates to burnout – the prolonged consequence of stress. This study further explored whether breaches of psychological contracts can trigger embitterment.
Methodology	The study employed a cross-sectional design where two hundred and eight ($N = 208$) participants from the general population completed an online survey.
Contribution	Findings suggest that the toll of embitterment might be much more than what research has suggested so far. Those who experience embitterment can become emotionally exhausted and cynical and these findings can be especially useful when identifying embitterment.
Findings	It was found that embitterment related to higher burnout levels and more specifically emotional exhaustion and cynicism. No significant findings were revealed for the relationship between professional inefficacy and embitterment. Also, psychological contract breach was found to be a significant predictor of embitterment, supporting further the notion that perceptions of injustice can trigger feelings of embitterment. Results also showed that embitterment mediated the relationship between psychological contract breach and burnout.
Recommendations for Researchers	The study highlights the notion that fairness is a key precursor of embitterment, and this finding is essential when developing interventions to prevent embitterment from arising.
Future Research	Future research could use a longitudinal study design to unravel whether burnout represents a precondition or the consequence of embitterment. Future research should also include more objective measures. For example, it would be

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useful to pair self-report data with more objective measures on embitterment (e.g. clinical interviews).

Keywords posttraumatic embitterment disorder, embitterment, burnout, psychological contract

INTRODUCTION

Linden (2003) defined embitterment as “an emotion encompassing persistent feelings of being let down, insulted and of being revengeful but helpless”. Embitterment reactions occur when important values, beliefs, and world-definitions or self-definitions are called into question by perceived injustice. Any life event can evoke feelings of embitterment; however, in one study, Linden et al. (2007) examined the types of events that can provoke feelings of embitterment and revealed that such critical life events were, in most cases, work-related (72.9%). This is perhaps not that unsurprising as the workplace can be seen as an arena of events and experiences involving injustice and unfairness. Despite the high prevalence of embitterment in organizational settings (Dunn & Sensky, 2018; Michailidis & Cropley, 2017) and the plethora of symptoms associated with it, studies are only recently looking into embitterment in the workplace. The overall aim of this study is to shed some light on what might trigger embitterment in employees and what are the possible consequences of it on their well-being.

According to the just world hypothesis (Lerner, 1980), embitterment occurs when an individual's belief in justice is violated, resulting in negative effects on their mental health (such as chronic strain; Kühn et al., 2018), physical health (such as poor sleep quality; Michailidis & Cropley, 2019), and work-related attitudes (such as reduced job satisfaction; Michailidis & Cropley, 2018). Using Colquitt's (2001) four-dimensional approach to organisational justice, Michailidis and Cropley (2017, 2018), have indeed supported that perceptions of organisational injustice can significantly predict feelings of embitterment in employees, which in turn can make it difficult for them to recover from job demands during their time off. Previous studies have shed light on the importance of justice as a key factor in embitterment, and its impact on individuals, but the existing research is limited and does not provide a comprehensive understanding of all the factors that contribute to embitterment.

In the present study, I aim to expand the current understanding of workplace embitterment by addressing these research gaps. To this end, I integrate the conservation of resources theory (Hobfoll, 1989) and the just world hypothesis (Lerner, 1980) to determine significant workplace characteristics that explain justice violations leading to embitterment and, consequently, to employees' poor emotional state (i.e., burnout).

EMBITTERMENT AND BURNOUT

There is a growing body of research to support the adverse consequences embitterment has on the mental health of both a healthy population and inpatients in psychiatric units. For instance, the findings of a study by Linden and Noack (2018) strongly associated embitterment with suicidality and aggressive ideation. Moreover, in a sample of healthy older adults, Kühn et al. (2018) found a negative association between the Post Traumatic Embitterment Disorder (PTED) self-rating score and self-reported well-being, life satisfaction, and future time perspective and a positive association with loneliness, perceived stress, chronic strain, and external control beliefs. The concept of embitterment is a relatively recent topic in the field of occupational and organisational psychology, with various studies being conducted on the subject (Michailidis & Cropley, 2017, 2018, 2019; Muschalla & von Kenne, 2020). Given that embitterment is frequently experienced in the workplace (Linden et al., 2007), studies have also explored the consequences embitterment has on working adults. More specifically, studies have shown that employees who experience embitterment engage in intrusive, pervasive, recurrent thoughts about work that are negative in affective terms, known as affective rumination interfering thus with employees' ability to recover from work (Michailidis & Cropley, 2017). Working adults who experience embitterment at work also show sleep disturbances (Michailidis &

Cropley, 2019). More recent studies have even tested the prevalence of embitterment in front-line health workers for COVID-19 control (Kang et al., 2022).

However, little is still known about the impact of embitterment on employees' emotional states. In this study, I argue that the fact that embitterment is accompanied by a stress response could suggest a possible connection with burnout. Interestingly, no study has yet investigated the relationship between burnout and embitterment. Burnout is a state of emotional, physical, and mental exhaustion caused by excessive and prolonged stress and is measured based on three dimensions (Maslach et al., 2001). Emotional exhaustion, meaning employees feel emotionally drained at the end of the day and whenever they think of work; cynicism, meaning employees feeling disconnected and experiencing their own life as mere spectators; and reduced personal accomplishment and drive, with employees doubting the significance of their job and lacking confidence in what they can accomplish (Maslach et al., 2001). Among factors that could potentially lead to burnout, findings from a longitudinal study design have supported that experiences of inequity and injustice might also affect burnout and more specifically emotional exhaustion (Van Dierendonck et al., 2001).

In the context of the conservation of resources theory (Hobfoll, 1989), it makes theoretical sense to expect that feeling embittered could be associated with burnout. According to this theory, stress is a reaction to the potential loss of resources in the environment, including objects, conditions, personal characteristics, and energies. This theory suggests that people strive to acquire and maintain resources in order to reduce stress. These resources can be divided into four categories: objects (e.g., house), conditions (e.g., justice), personal qualities (e.g., fairness), and energies (e.g., financial security). Under the conditions outlined by this theory, burnout might emerge when justice and fairness beliefs are threatened or lost. In line with the just world hypothesis (Lerner, 1980), embitterment is seen as the aftermath of a violation of justice beliefs. As such, when employees experience embitterment they might feel that their resources, in this case conditions of justice and fairness, are depleted and as such might be more vulnerable to burnout.

Based on the theoretical analysis I hypothesise the following:

Hypothesis 1a: Embitterment will associate positively with emotional exhaustion.

Hypothesis 1b: Embitterment will associate positively with cynicism.

Hypothesis 1c: Embitterment will associate negatively with the sense of personal accomplishment.

EMBITTERMENT AND PSYCHOLOGICAL CONTRACT BREACH

As mentioned, embitterment is triggered by the violation of basic beliefs. Basic beliefs can be conceptualized as value systems of what is important to each individual. These values and beliefs might differ from person to person and might encompass from religious or political beliefs to basic definitions of oneself and one's personal goals in life (Beck et al., 1979). According to Janoff-Bulman (1992), people tend to hold the belief that the world is a just place and that they can rely on their efforts being fairly rewarded. The experience of being treated in a fair manner contributes to the sense of being a valued individual and elicits positive emotions. However, when people experience a critical negative, unjust life event (e.g., unemployment), these core beliefs are often "shattered" (Janoff-Bulman, 1992), and feelings of embitterment can be triggered (Linden et al., 2008). Indeed, recent studies investigating predictors of embitterment in the workplace suggest that employees' perceptions of organisational injustice can predict employees' feelings of embitterment (Michailidis & Cropley, 2017; Sensky et al., 2015).

In workplace settings, employees and employers exchange implicit 'expectations' that the promises (e.g., advancement opportunities) made will be kept (Blau, 1964; Rousseau, 2001). Thus, an employee's perceived expectations of what they can gain from an organization, in exchange for providing something like loyalty or hard work, is known as a 'psychological contract' (Blau, 1964; Rousseau,

2001). A breach of this psychological contract occurs when an employee or employer perceives that the other party has failed to fulfill one or more obligations associated with perceived mutual promises (Gakovic & Tetric, 2003).

Psychological contract refers back to the social exchange theories of social psychology. Social exchange theories view social interactions as transactional (cost-benefit) where one party believes that the other can and is willing to offer them something they value in return for their effort (Cropanzano et al., 2017). In the case of the employee-employer relationship, productivity, high performance, self-improvement, commitment, loyalty, and good conduct are often rewarded with highly competitive salaries, support, fringe benefits, recognition, opportunities for development, and promotions.

The employee-organisation relationship can be irreversibly affected when either the employee's or the employer's effort is much greater than the expected reward, or when an implicit or explicit promise is perceived as broken (Coyle-Shapiro et al., 2019). When an employee perceives that their psychological contract has been breached, the individual feels a sense of both deception and wrongdoing that can have pervasive implications for the relationship between the individual and their employer and also for the individual's wellbeing (Rousseau, 1989). In line with the just world hypothesis, people tend to believe that the world is inherently fair and that they get what they deserve. When an individual experiences a breach in their psychological contract at work, such as unfulfilled promises or expectations from their employer, it can lead to a violation of their belief in a just world. Within the scope of the present research, I sought to investigate whether perceptions of psychological contract breach significantly predict feelings of embitterment, in a sample of working adults.

Hypothesis 2: Perceptions of psychological contract breach will be significantly and positively associated with embitterment.

Embitterment as a mediator in the relationship between psychological contract breach and burnout

Past research has supported the relationship between perceptions of psychological contract breach and burnout. In a study conducted by Chambel and Oliveira-Cruz (2010), it was found that breach of psychological contract influenced the burnout levels of a sample of military soldiers. Using Maslach's Burnout Inventory, Cantisano et al. (2007) found that perceptions of psychological contract breach in a sample of Spanish teachers predicted burnout. What remains unknown is the underlying mechanism by which perceptions of psychological contract breach led to burnout. In line with the just world hypothesis, a psychological contract breach can cause feelings of injustice, resentment, and embitterment in the employee. In turn, drawing upon the conservation of resources theory, embitterment that is triggered by perceptions of psychological contract breach could result in burnout. When employees experience a violation of their sense of justice in the workplace, such as perceived unfairness or a breach of their psychological contract, it can result in a loss of valuable resources. This loss can lead to feelings of embitterment and a sense of powerlessness, as employees perceive that they have been treated unjustly and have lost something of value, which eventually could also lead to burnout.

Thus, the final aim of this study is to investigate whether embitterment acts as a mediator in the relationship between psychological contract breach and burnout.

Hypothesis 3a: Embitterment will mediate the relationship between psychological contract breach and emotional exhaustion.

Hypothesis 3b: Embitterment will mediate the relationship between psychological contract breach and cynicism.

Hypothesis 3c: Embitterment will mediate the relationship between psychological contract breach and reduced sense of professional efficacy.

METHOD

PARTICIPANTS AND PROCEDURES

The researcher received approval from the University Ethics Committee for the study. To recruit employed individuals, convenience and network sampling strategies were implemented. More specifically, participants were recruited through the researcher's professional networks. Individuals who chose to participate were encouraged to forward the link to other colleagues who were over the age of 18 and working. Details of the study and a live link to the survey were also posted on professional networking sites and information about the study was also distributed via human resource managers of organisations the researchers had contact with. This was done in order to ensure the sample was diverse and there was sufficient variance in the study variables (Demerouti & Rispens, 2014). Before signing the consent form, all participants were provided with details about the study and reassured that their responses would remain confidential and anonymous.

In total two hundred and eight ($N = 208$) employees in Cyprus took part in the study, with an average age of 34.2 ($SD = 8.26$), ranging from 18 years old to 60 years old (males = 96, 45%, females = 109, 52%, identified as another gender = 3, 0.5%). The majority of participants worked full-time ($N = 161$, 77.4 %) and worked between 31 and 40 hours per week ($N = 82$, 39%). Most respondents ($N = 114$, 55%) reported having a standard work pattern of 09:00 to 17:00 and have been working in their current position for one to three years ($N = 52$, 25%).

The participants worked in many industry sectors including business and management-related careers (15%), education (15%), IT and computer services (11%), research (10%), media production and marketing (10%), sales and customer service (8%), engineering (7%), healthcare (7%), and other (17%).

MEASURES

Data was collected with the use of an online questionnaire via a survey website distributed on various social media and professional networking sites. This ensured a heterogeneous and anonymised sample, and thus a high level of generalisability. Participants were asked to read the study information sheet, provide their consent, and then complete the questionnaire which consisted of the following scales.

Psychological Contract Breach

The Psychological Contract Breach Scale (PCBS), developed by Robinson and Wolfe Morrison (2000), was used to measure the employee's perception of PCB. PCBS uses a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree) to score 5 items (e.g., "*My employer has broken many of its promises to me even though I've upheld my side of the deal*"). High scores indicate that the individual has a high perception of PCB. Robinson and Wolfe Morrison reported Cronbach's alpha coefficients of .87. Cronbach alpha for the present study can be found in Table 1.

Table 1. Means, (Standard Deviations), internal consistency (on the diagonal) and correlations among the study variables

	M(SD)	1	2	3	4	5
1 Psychological contract breach	2.85(0.87)	(.81)				
2 Embitterment	1.14(0.99)	.50**	(.96)			
3 Exhaustion	3.40(1.59)	.34**	.59**	(.90)		
4 Cynicism	3.37(1.75)	.36**	.55**	.73**	(.89)	
5 Professional efficacy	5.38(1.20)	-.05	-.11	-.25**	-.39**	(.84)

N = 208, ***p* < 0.01. Cronbach's alpha (on the diagonal)

Embitterment: PTED scale

This is a self-rating scale consisting of 19 items measuring post-traumatic embitterment (Linden et al., 2009) using a 5-item Likert scale from 0 (not true at all) to 4 (extremely true). As the present study explored embitterment in a sample of working adults, the scale began with “*I have experienced one or more distressing events at work ...*” and followed by statements such as “*... that causes me to be extremely upset when I am reminded of it*”. Previous studies have reported a Cronbach alpha of .96 (Michailidis & Cropley, 2017). The degree of embitterment is determined based on its relation to the mean score of the scale. Average scores, ≥ 2.5 , indicate clinically relevant embitterment levels while those above 1.5 translate to moderate levels of embitterment (Linden et al., 2009).

Burnout

The Maslach Burnout Inventory-General Survey (MBI-GS) is a scale that measures burnout based on three dimensions: exhaustion, cynicism (depersonalisation), and professional efficacy (personal accomplishment) (Maslach et al., 2001). The MBI-GS is similar to the original MBI scale, however, it measures burnout in every occupation, instead of just in human-services fields (i.e., healthcare, education, social work). High scores on exhaustion and cynicism and low scores on professional efficacy reflect high burnout levels. Cronbach's alpha coefficients have been found to range on average from .75 to .83 (Michailidis & Banks, 2016).

All three dimensions of the MBI-GS scale were measured on a 7-point frequency scale: (1) never, (2) a few times a year or less, (3) once a month or less, (4) a few times a month, (5) once a week, (6) a few times a week, and (7) every day. The exhaustion scale consists of five statements, such as: “*I feel tired when I get up in the morning and have to face another day on the job*”. The cynicism scale also consists of five statements (i.e., “*I have become less interested in my work since I started this job*”), while the professional efficiency is scored on six statements, such as: “*I feel I am making an effective contribution to what this organization does*”.

RESULTS

Data analyses were performed using IBM SPSS Statistics 25 and the mediation analyses were performed using the dialog box PROCESS (Hayes, 2013) on SPSS.

On average, the sample had a mean score embitterment of 1.14 (range 0 - 3.78, *SD* = 0.99). When embitterment was defined as a score of > 2.5 , 12% of the sample would classify as clinically embittered. According to Linden et al. (2009), an average sum score of > 2.5 indicates a clinically relevant degree of reactive embitterment. When embitterment was defined as a score of > 1.5 , 32% of the

sample would classify as showing a moderate degree of embitterment. Because the present study comprises a healthy working convenience sample, we treated PTED scores as a continuous indicator of embitterment and did not treat it as a discrete diagnosis. The mean and standard deviations for all study variables are presented in Table 1.

Bivariate correlation analysis was conducted using Pearson's r correlation coefficient. As can be seen in the correlation matrix (Table 1), the correlations between all study variables were significant, except for the correlation between embitterment and professional efficacy.

Hypotheses 1 and 2 were further tested using regression analysis. A simple linear regression was calculated to predict emotional exhaustion, cynicism, and professional efficacy based on embitterment. A significant regression equation was found for emotional exhaustion, $F(1, 206) = 107.229, p < .001$, with an $R^2 = .35$ and cynicism, $F(1, 206) = 89.569, p < .001$, with an $R^2 = .31$ respectively. Embitterment did not significantly predict a reduction in professional efficacy, $F(1, 206) = 2.69, p = .102$. Regression analysis further indicated that perceptions of psychological contract breach significantly predicted embitterment, $F(1, 206) = 67.92, p < .001$, with an $R^2 = .25$.

MEDIATION ANALYSIS

The mediation analysis showed that psychological contract breach indirectly influenced emotional exhaustion and cynicism through its effect on embitterment. A bias-corrected bootstrap confidence interval for the indirect effect of embitterment ($ab_1 = 0.501; ab_2 = 0.500$), based on 5,000 bootstrap samples was entirely above zero (95% CI[0.3426, 0.6703]; 95% CI[0.3256, 0.6841]), indicating a significant effect, respectively. There was no evidence that perceptions of psychological contract breach influenced exhaustion nor cynicism independent of its effect on embitterment because the direct pathway ($c_1 = 0.1068; c_2 = 0.2274$) was not statistically significant, respectively. These results represent a total mediation effect of perceptions of psychological contract breach through embitterment for its effect on emotional exhaustion and cynicism.

No mediation effect of perceptions of psychological contract breach through embitterment for its effect on professional efficacy was found. The model coefficients for all significant mediation analyses are presented in Table 2.

Table 2. Model coefficients for mediation analysis of emotional exhaustion and cynicism

	M (embitterment)					Y (emotional exhaustion)			Y (cynicism)					
	Coeff.	SE	<i>p</i>	R2	<i>F</i>	Coeff.	SE	<i>p</i>	Coeff.	SE	<i>p</i>			
X (PCB)	a1	.567	.069	.000	.250	64.92	c1	.107	.112	.373	c2	.227	.135	.095
M1(EMB)	-	-	-	-	-	-	b1	.899	.106	.000	b2	.883	.119	.000
Constant	i1	-476	.205	.021	-	-	i	2.065	.312	.000	i	.172	.353	.000

R2 = .3471
F(1,204) = 30.96,
p = .000

R2 = .1300
F(1,204) = 30.49,
p = .000

EMB = Embitterment; PCB = Psychological contract breach

DISCUSSION

Within the scope of the present study, I aimed at investigating further the manifestations and triggers of embitterment, in a sample of healthy working adults. As the study sample was not clinical, I used embitterment as a continuous variable, not as a discrete clinical diagnosis. More specifically, in line with the conservation of resources theory, I sought to investigate whether embitterment relates to burnout (H1). Drawing upon the just world hypothesis I also anticipated that perceptions of psychological contract breaches will associate positively with embitterment (H2). Finally, this study also tested the mediating effects of embitterment in the relationship between psychological contract breach and burnout (H3). In line with the hypothesis, embitterment was found to predict emotional exhaustion and cynicism (Hypotheses 1a & 1b). However, Hypothesis 1c was not supported as no significant findings were revealed between embitterment and professional efficacy. With regards to Hypothesis 2, findings indicated that perceptions of psychological contract breach can predict feelings of embitterment. Finally, when testing mediation models, results suggested that embitterment mediated the relationship between psychological contract breach and emotional exhaustion and cynicism, thus Hypotheses 3a and 3b were supported. Embitterment did not significantly mediate the relationship between psychological contract breach and professional efficacy, thus Hypothesis 3c was not met. The findings are discussed in more detail below.

Sensky (2010) argued that there are considerable similarities between embitterment and burnout. Both burnout and embitterment are associated with work-related stress and are often both diagnosed after a long absence from work (Sensky, 2010). Furthermore, individuals whose personal values clash with those of the organisation are equally likely to experience feelings of embitterment and burnout (Sensky, 2010). Siegall and McDonald (2004) supported that burnout is more common when discrepancies exist between the values of the individual and the organisation they work for. When looking at the findings from the correlation analysis, it could be argued that, although embitterment correlates positively with exhaustion and cynicism, the correlation coefficient is of moderate level; $r = .59$, $r = .55$, respectively, thus multicollinearity is not present. These findings suggest an association between embitterment and the two dimensions of burnout, but one could not argue that they measure the same thing. Although similarities might exist between embitterment and burnout, still embitterment should be treated as an independent variable from burnout. Embitterment could be described as a state of mood distinct from burnout.

The fact that embitterment is associated with and can significantly predict emotional exhaustion and cynicism in working adults, makes theoretical sense. Using the conservation of resources theory, I argued that employees who experience a violation of their sense of justice in the workplace, such as perceived unfairness or a breach of their psychological contract, can result in loss of valuable resources and therefore experience burnout. The findings have indeed provided support for this argument but only for the two dimensions of burnout: emotional exhaustion and cynicism. Emotional exhaustion captures the stress dimension of burnout and constitutes the core symptom of burnout, as suggested in Maslach et al.'s (2001) conceptualisation of burnout. Kühn et al. (2018) have supported positive correlations between embitterment and self-reported stress measures in a sample of healthy older adults. The fact that embitterment correlates with stress also derives from the clinical definition of PTED. However, findings from this study may suggest that embitterment may not only lead to increased stress but is also associated with the prolonged effects of stress such as burnout. Embitterment also significantly predicted cynicism. Cynicism describes the process whereby employees develop a feeling of indifference towards their work and coworkers. This finding fits the notion that those who experience embitterment withdraw from others and show aggression towards others (Linden et al., 2009).

Interestingly, the findings did not suggest that embitterment predicted a reduction in professional efficacy. Reduced levels of professional efficacy entail the tendency to assess one's work negatively, and it involves a reduced sense of competence and performance at work (Maslach et al., 2001). It can be

suggested, therefore, that embitterment does not result in a crisis in one's efficacy and reduces confidence in one's competence. Rather, what the findings from this study suggest is that embitterment can lead to burnout only in the form of emotional exhaustion and cynicism.

A further finding of this study is that perceptions of psychological contract breach are associated with embitterment. These findings fit well with the definition of PTED, which comprises the experience of a negative event as "unjust". Experiencing a breach of the psychological contract in the workplace has been found to have an effect on employees' perceptions of organisational justice (Estreder et al., 2020). Findings from the present study are congruent with findings of previous studies indicating that the perceptions of unfairness and low organisational justice can eventually lead to embitterment (Michailidis & Cropley, 2017). This finding is also in line with previous studies on embitterment that indicate that a reduced sense of control over one's work performance significantly predicted embitterment. Some studies have shown that a breach of psychological contract threatens predictability and the sense of control that people believe they have over their work environment and thus becomes a source of workers' burnout (Gakovic & Tetrick, 2003; Topa & Morales, 2005).

Using both the conservation of resources theory (Hobfoll, 1989) and the just world hypothesis (Lerner, 1980), this study further proposed that breaches of psychological contract, such as unfulfilled promises or expectations from their employer, would lead to a violation of their belief in a just world generating feelings of embitterment. Feelings of embitterment would consequently lead to burnout. Research so far has supported the association between breaches of psychological contract breach and burnout, especially with cynicism (Johnson & O'Leary-Kelly, 2003). However, the underlying mechanism with which perceptions of psychological contract breach led to burnout has not been studied extensively. In the present study, embitterment was found to be a significant mechanism through which perceptions of psychological contract breach exerted their effect on emotional exhaustion and cynicism. Experiencing breaches of psychological contract can generate feelings of embitterment leading to burnout expressed as emotional exhaustion and cynicism.

LIMITATIONS AND FUTURE RESEARCH

Although this study advances our understanding of what triggers embitterment and its impact on well-being, some key limitations should be acknowledged. Due to the cross-sectional nature of the study, causality cannot be inferred. Based on previous research my interpretation is that embitterment could lead to emotional exhaustion and cynicism. However, it is also possible that the direction of causality is reversed; one could argue that burnout could also lead to embitterment. Therefore, future research could use a longitudinal study design to unravel whether burnout represents a precondition or the consequence of embitterment. Another limitation of the study is that measurements were obtained with the use of self-report scales thus response bias could not be avoided. However, the online survey was anonymous, and this should have reduced respondents' evaluation apprehension and made them less likely to respond in a more socially desirable manner (Podsakoff et al., 2003).

Future research should include more objective measures. For example, it would be useful to pair self-report data with more objective measures on embitterment (e.g., clinical interviews). Burnout could also be measured with other indicators such as heart rate and blood pressure. Laboratory studies have indeed supported that burnout is associated with higher systolic and diastolic blood pressure as well as higher heart rate (De Vente et al., 2003). Such research could also shed some light on the physiological symptoms of embitterment.

Practical implications

Notwithstanding the general limitations inherent in the present study, this study is novel and furthers our understanding of embitterment. Unfolding further consequences of embitterment, such as emotional exhaustion and cynicism, has enabled a much deeper understanding of embitterment features, which could be used by clinicians for identifying embitterment. Additionally, the study has highlighted the notion that fairness is a key precursor of embitterment, and this finding is essential when

developing interventions to prevent embitterment from arising. These findings also highlight the importance of maintaining a fair and supportive work environment, as well as providing employees with the resources they need to succeed, in order to prevent embitterment and burnout. Finally, although I did not treat embitterment as a discrete diagnosis but used the PTED score as a continuous indicator of embitterment, still the descriptive statistics stress the high prevalence of embitterment. In the present sample, 32% of participants were classified as showing a moderate degree of embitterment. This figure highlights the need for further research on PTED, as although the high prevalence, research still remains scarce.

CONCLUSION

To conclude, within the scope of the present study, I sought to investigate how embitterment relates to burnout, i.e., the prolonged consequence of stress, whether breaches of psychological contract trigger feelings of embitterment and the mediating role of embitterment in the relationship between psychological contract and burnout. Findings indicated that those who experience embitterment can become emotionally exhausted and cynical, and these findings can be especially useful when identifying embitterment. Findings also provide further evidence for the precursors of embitterment in the workplace and are aligned with previous research where embitterment is seen as the aftermath of a violation of justice beliefs. The knowledge gained from this research could be used by businesses to prevent experiences of embitterment and safeguard their employees' mental health.

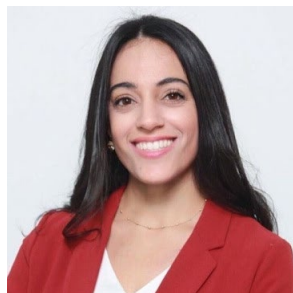
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